

IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes previously made to the claims, and replaces all earlier versions and all earlier listings of the claims. Applicants note that the claims have not been amended in this response.

1. (Previously Presented) A printing apparatus for forming a color image by applying different color inks to a printing material using a recording head, while bi-directionally moving the recording head to scan the recording material, said apparatus comprising:

a record control means for applying ink to respective pixel areas, each of said pixel areas being constituted only by a primary color or colors or constituted only by a secondary color or colors, and for controlling a number of ink droplets applied to each of said pixel areas in accordance with multi-level data;

a changing means for changing an order of applications of the inks to be applied for printing a secondary color to a secondary color pixel area; and

a forming means for forming the secondary color while making the order of applications of the inks to at least one of a plurality of the secondary color pixel areas arranged along a raster scan direction different from the order of another, by said changing means.

2. (Previously Presented) The apparatus according to Claim 1, wherein said forming means forms the secondary color while changing by said changing means the order

for substantially half the number of the secondary color pixel areas arranged along the raster scan direction.

3. (Previously Presented) The apparatus according to Claim 1, wherein said recording head includes one or more sets of recording elements for application of the color ink, the recording elements constituting the set being arranged in the scanning direction symmetrically, and said changing means selects one of the recording elements constituting the set to make the order of applications of the inks to the pixel area different from the order of another.

4. (Previously Presented) The apparatus according to Claim 3, wherein said changing means includes print buffers for the recording elements disposed symmetrically, which selectively store print data for applying the ink from corresponding recording elements to change the order of applications of the inks to at least one of the secondary color pixel areas arranged in each raster line.

5. (Previously Presented) The apparatus according to Claim 4, wherein said forming means distributes the print data to the print buffers on the basis of an image signal corresponding to a color image to make the order of applications of the inks to at least one of the secondary color pixel areas arranged in each raster line different from the order of another.

6. (Previously Presented) The apparatus according to Claim 5, wherein said

forming means distributes the print data randomly to the print buffers on the basis of the image signal corresponding to the color image.

7. (Previously Presented) The apparatus according to Claim 5, wherein said forming means distributes the print data alternately to the print buffers on the basis of the image signal corresponding to the color image.

8. (Previously Presented) The apparatus according to Claim 1, wherein said recording head includes recording elements for applying different color inks arranged in the scanning direction, and said changing means changes the order of applications of the inks to the pixel areas by selecting a scanning direction of the recording head in which the ink is applied to the pixel areas.

9. (Previously Presented) The apparatus according to Claim 3, wherein the recording elements comprises cyan, magenta and yellow ink recording elements, and one of such recording elements is at a center of the symmetry.

10. (Previously Presented) The apparatus according to Claim 3, wherein a number of the sets is two.

11. (Previously Presented) The apparatus according to Claim 9 or 10, wherein said recording head further includes a recording element for applying black ink.

12. (Previously Presented) The apparatus according to Claim 1, further comprising a means for applying to the secondary color pixel area a plurality of at least one of the color inks to be applied to form the secondary color to make the order of applications of the inks of said one of the color inks symmetrical to that of the other color.

13. (Previously Presented) The apparatus according to Claim 12, wherein a plurality of the other ink is applied to the pixel area.

14. (Previously Presented) The apparatus according to Claim 12, wherein centers of gravity of the dots of the different colors applied to the pixel area are substantially aligned with each other.

15. (Previously Presented) The apparatus according to Claim 12, wherein dots of inks of different colors applied to the pixel area are at least partly overlapped.

16. (Previously Presented) The apparatus according to Claim 13, wherein a plurality of the dots of the one color ink and a plurality of dots of the other color inks applied in a different order are provided in said pixel area.

17. (Previously Presented) A printing apparatus for forming a color image by application of different color inks onto a printing material while bi-directionally moving the recording head to scan the printing material, said recording head having one or more sets of recording elements arranged in a scanning direction symmetrically, said apparatus

comprising:

print buffers, each of said print buffers corresponding to the symmetrically arranged recording elements constituting the set; and

a distributing means for distributing print data for a color to at least one of said print buffers on the basis of an image signal corresponding to the color image,

wherein said distributing means distributes the print data to either one of the print buffers when the image signal has a low level, and distributes the print data to both of the print buffers when the image signal has a high level.

18. (Canceled)

19. (Previously Presented) A printing apparatus for forming a color image by application of different color inks to a printing material using a recording head, while bi-directionally moving the recording head to scan the recording material, said apparatus comprising:

a record control means for effecting recording with control of ejection of the ink to each of pixel areas, said record control means effecting process color recording by application of a plurality of colors of inks to each of the pixel areas;

a changing means for changing an order of applications of inks of different colors to form a process color in a process color pixel area;

a forming means for forming the process color by making an order of applications of the inks to at least the secondary color pixel areas arranged in a raster scan direction different from the order of another, by said changing means.

20. (Previously Presented) The apparatus according to Claim 1 or 19, wherein the recording head ejects the ink by heat.

21. (Previously Presented) A printing method for forming a color image by application of different color inks onto a printing material using a recording head, while bi-directionally moving the recording head to scan the printing material, said method comprising:

a recording step, of applying ink to respective pixel areas, each of which is constituted only by a primary color or colors or constituted only by a secondary color or colors, and for controlling numbers of ink droplets applied to each of the pixel areas in accordance with multi-level data;

a first step of application of different color inks to form a secondary color in a secondary color pixel area in one order of applications; and

a second step of application of different color inks to form the secondary color in the secondary color pixel area in an order of applications which is different from the order in said first step of application.

22. (Previously Presented) The method according to Claim 21, wherein the recording head includes two sets of recording elements for application of the color ink, the recording elements constituting the set being arranged in the scanning direction symmetrically, and said first step and said second step are carried out through one scanning motion of the recording head.

23.-24. (Canceled)

25. (Previously Presented) The apparatus according to Claim 1, wherein said apparatus is incorporated in a copying machine having a scanner effecting the scan.

26. (Previously Presented) The apparatus according to Claim 1, wherein said apparatus is incorporated in a facsimile machine having a data sending and receiving device.

27. (Previously Presented) A printing apparatus for forming a color image by applying different color inks to a printing material using a recording head, while bi-directionally moving the recording head to scan the recording material, said apparatus comprising:

a record control means for applying the ink to respective pixel areas, each of said pixel areas being constituted only by a primary color or colors or constituted only by a secondary color or colors, and for controlling ink application to each of said pixel areas in accordance with multi-level data;

a changing means for changing an order of applications of the inks to be applied for printing a secondary color to a secondary color pixel area; and

a forming means for forming the secondary color while making the order of applications of inks to at least one of a plurality of the secondary color pixel areas arranged along a raster scan direction different from the order of another, by said changing means.

28. (Previously Presented) A printing apparatus for forming a color image by applying different color inks to a printed material using a recording head, while bi-directionally scanning the recording head to scan the recording material, said apparatus comprising:

changing means for changing an order of applications of the inks to be applied for printing a secondary color pixel area, wherein said changing means is capable of changing the order of applications of the inks for each pixel along a raster scan direction; and

forming means for forming the secondary color while making the order of applications of the inks to at least one of a plurality of the secondary color pixel areas arranged along the raster scan direction different from the order of another, by said changing means.

29. (Previously Presented) A printing method for forming a color image by applying different color inks to a printed material using a recording head, while bi-directionally scanning the recording head to scan the recording material, said method comprising the steps of:

changing an order of applications of the inks to be applied for printing a secondary color pixel area, wherein said changing step includes selectively changing the order of applications of the inks for each pixel along a raster scan direction; and

forming the secondary color while making the order of applications of the inks to at least one of a plurality of the secondary color pixel areas arranged along the raster scan direction different from the order of another, in said changing step.